

NONPOINT SOURCE POLLUTION PROBLEMS AND SOLUTIONS



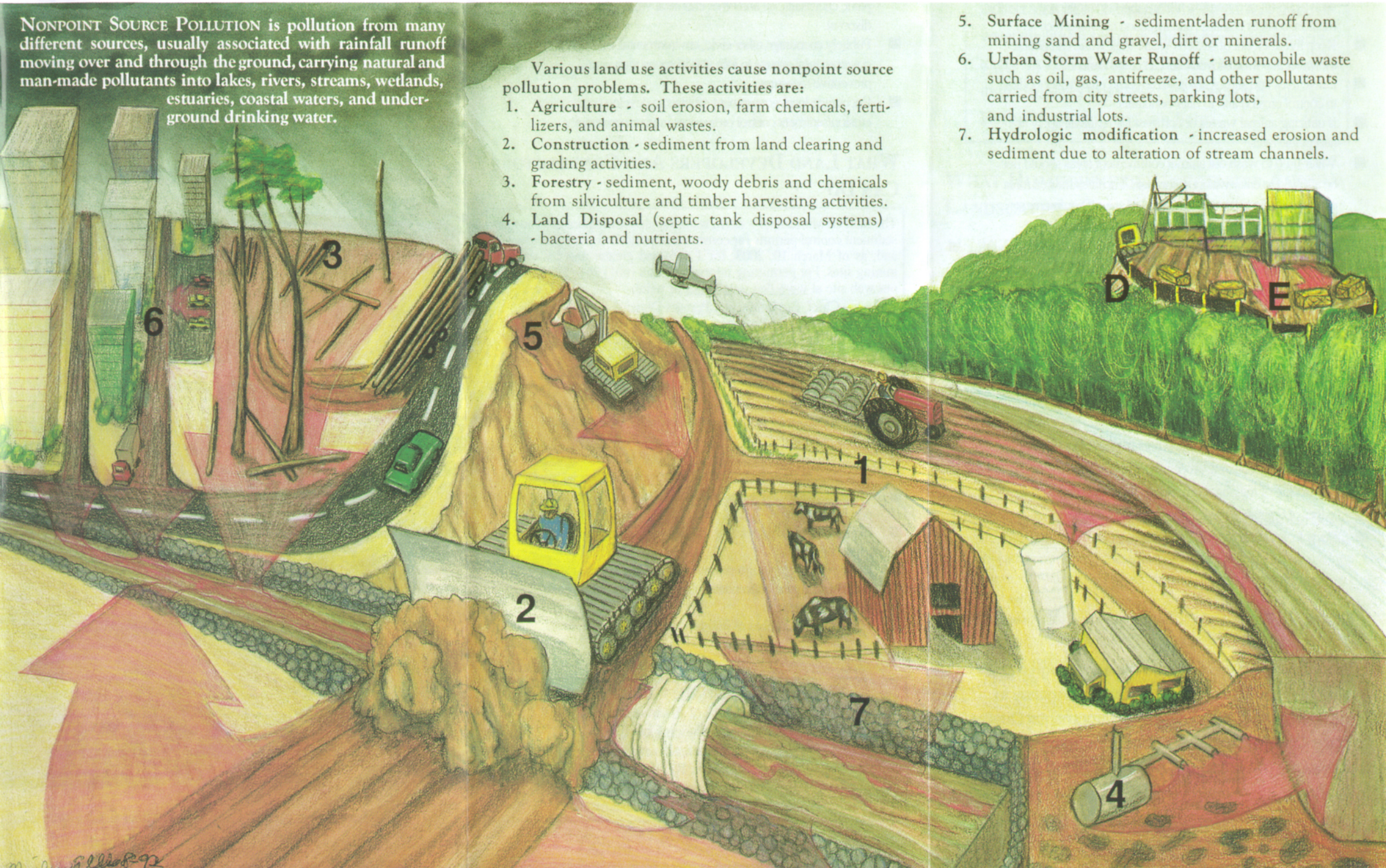
WHAT IS NONPOINT SOURCE POLLUTION?

NONPOINT SOURCE POLLUTION is pollution from many different sources, usually associated with rainfall runoff moving over and through the ground, carrying natural and man-made pollutants into lakes, rivers, streams, wetlands, estuaries, coastal waters, and underground drinking water.

Various land use activities cause nonpoint source pollution problems. These activities are:

1. Agriculture - soil erosion, farm chemicals, fertilizers, and animal wastes.
2. Construction - sediment from land clearing and grading activities.
3. Forestry - sediment, woody debris and chemicals from silviculture and timber harvesting activities.
4. Land Disposal (septic tank disposal systems) - bacteria and nutrients.

5. Surface Mining - sediment-laden runoff from mining sand and gravel, dirt or minerals.
6. Urban Storm Water Runoff - automobile waste such as oil, gas, antifreeze, and other pollutants carried from city streets, parking lots, and industrial lots.
7. Hydrologic modification - increased erosion and sediment due to alteration of stream channels.



HELP KEEP MISSISSIPPI'S WATER CLEAN WITH BEST MANAGEMENT PRACTICES

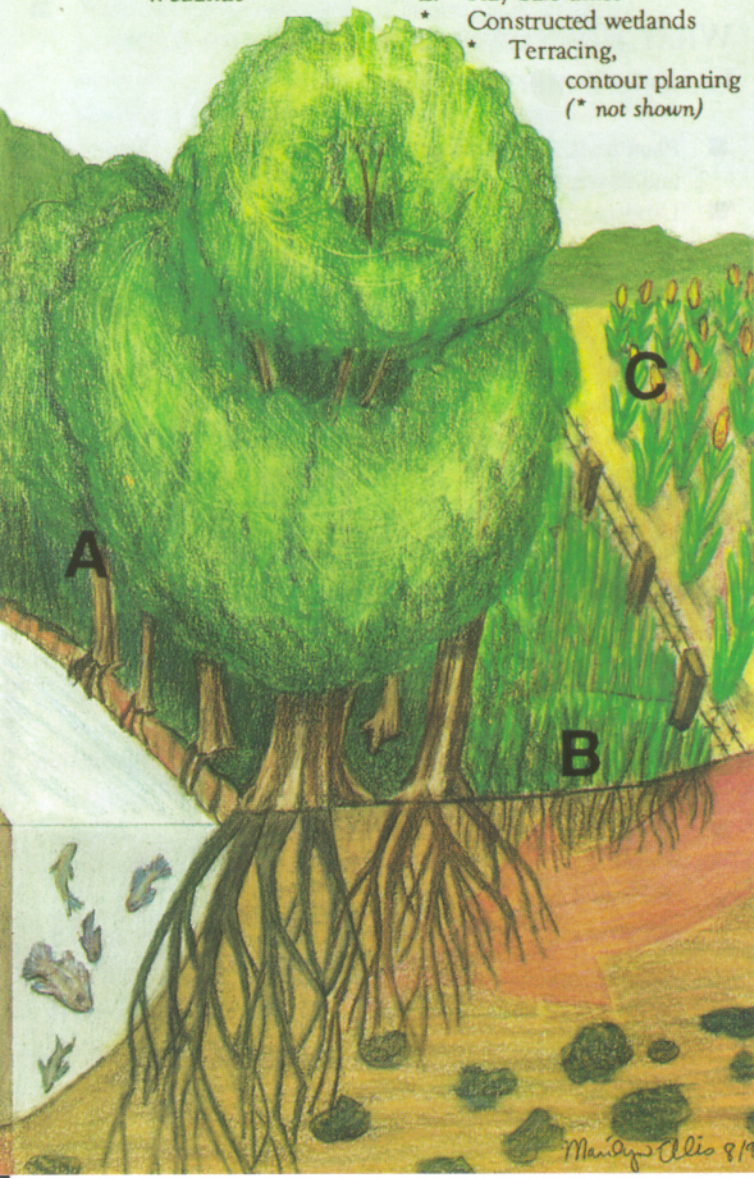
Best Management Practices (BMPs) are the most practical, effective and economical means of preventing pollution from nonpoint sources (NPS) or reducing pollution to a level that is compatible with water quality goals. Examples are:

Natural BMPs

- A. Tree Buffer Zone
- B. Grass Filter Strips
- * Wetlands

Manmade Techniques

- C. Conservation Tillage
- D. Silt Fences
- E. Hay bale dikes
- * Constructed wetlands
- * Terracing,
contour planting
(* not shown)



WHAT YOU CAN DO TO REDUCE NONPOINT SOURCE POLLUTION

Nonpoint Source Pollution (NPS), or pollution from indirect sources, is considered to be the primary cause of water quality problems in Mississippi surface waters today. In 1987, Section 319 of the Clean Water Act instructed states to address NPS Pollution problems. Here is how citizens can help.

WHAT HOMEOWNERS, GARDENERS AND LANDSCAPERS CAN DO

- Plant trees, shrubs and groundcover to filter out pollutants and dramatically reduce the amount of runoff generated.
- Landscape your yard with "native" plants, shrubs and trees that are adapted to the soils and climate of your region to reduce pesticide and fertilizer use and to conserve water.
- Follow manufacturers' directions when using fertilizers and pesticides.
- Mulch your flower or vegetable garden with leaves, pine straw, shredded tree limbs or bark to enrich the soil, protect the soil from erosion, prevent weed growth, conserve soil moisture, and to stabilize soil temperature.
- Compost grass and leaves. Grass clippings and leaves raked into the street will wash into storm sewers and into the nearest river or lake.
- Recycle or dispose of used oil, antifreeze, paints and other household chemicals properly, not in storm sewers or drains. If your community does not have a program for collecting household hazardous wastes, ask your local government to establish one.
- Encourage local government officials to develop construction erosion/sediment control ordinances in your community.
- Rural homeowners should protect private wells by mixing chemicals away from the well head and by placing the septic tank and field line down hill from the well.
- Maintain your septic tank and field line, and pump out solids periodically.
- Participate in community stream clean-ups, citizen volunteer monitoring (Adopt-A-Stream), and promote stewardship of the environment in your community.

WHAT FARMERS CAN DO

- Prevent erosion because it not only costs you money and land, it also pollutes the water.
- Use a wide variety of soil and water conservation practices such as no-till or minimum till farming, terracing, crop rotation, contour planting, and irrigation tail water recovery.
- Keep livestock out of streams where their waste can pollute the water and their movements can cause erosion.
- Leave trees and shrubs along streams and other water bodies to control erosion and to filter pollutants.
- If utilizing animal wastes or compost for fertilizer, apply at acceptable rates.
- Water used to wash out animal confinement areas should not be allowed to enter waters of the state. Facilities for treatment or disposal of wastewater generated at animal confinements should seek a permit from the Mississippi Department of Environmental Quality.
- Dead animals should be disposed of in an approved manner. Composting is preferred to burial for small animals such as chickens.
- Apply chemicals at the proper rate and not when rainfall is imminent. Dispose of pesticides, containers and tank rinse water in an approved manner. Encourage a pesticide container recycling program in your county.
- Plug unused wells and cap artesian wells.
- Use proper logging and erosion control practices on your forest lands by ensuring proper construction, maintenance and closure of logging roads. Retain trees and shrubs on the edges of drainage channels, streams and rivers.
- Recycle waste oil generated in farm use.

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WHAT CIVIC LEADERS CAN DO

- Sponsor a tour to identify potential causes of NPS pollution in your community and to illustrate the application of BMPs.
- Sponsor an amnesty day and allow people to bring in old paint, chemicals, oil and other chemical wastes for proper disposal.
- Publicly encourage other civic, environmental, business and governmental groups to join you in sponsoring sound preventive measures.
- Encourage local government officials to develop construction erosion/sediment control ordinances in your community.

WHAT LAND DEVELOPERS AND CONTRACTORS CAN DO

The State of Mississippi's storm water regulations require erosion and sediment control permits for construction projects 5 acres and greater and, as of March 10, 2003, for 1 acre and greater and for surface mining sites. For permitting information call (601) 961- 5171, access our web site at www.deq.state.ms.us or write:

Chief, Environmental Permits Division
MS Dept of Environmental Quality
Office of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385

- Before clearing a site, have the storm water permit in hand and install the required sediment controls such as silt fences and sediment basins.
- Minimize disturbance of trees and vegetation. Retaining natural vegetation around creeks and drainage areas is of special importance.
- Maintain the natural drainage of the site to the fullest extent possible.
- Do not channel concentrated runoff flows into natural creeks or gullies.
- Design drainage systems to maximize infiltration into the soil and minimize concentrated flows which may require curbs and gutters.
- Correct erosion problems immediately. It's the law!

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